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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/631,061	07/31/2003	Thomas R. Forrer JR.	AUS920030307US1	3511

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EXAMINER

BATAILLE, PIERRE MICHE

ART UNIT PAPER NUMBER

2186

DATE MAILED: 09/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/631,061

Applicant(s)

FORRER ET AL.

Examiner

Pierre-Michel Bataille

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The present Office Action is taken in response to applicant's communication filed August 3, 2006, which follows Examiner's interview dated August 2, 2006, and all to respond to Non-Final Rejection dated May 4, 2006. Applicant's arguments and/or arguments have been considered with the results that follow.
2. Applicant's arguments filed August 3, 2005 have been fully considered but they are not deemed to be persuasive for at least the following remarks.

Applicant initiated a telephone interview, between Mr. Theodore Fay (applicant's representative) and the examiner, taken place on August 2, 2006 where arguments by the applicant were that the applied references, US 6,052,798 (Jeddeloh) and US 2002/0126408 (Okuyama et al), fail to teach, as requested in the claims, "verifying condition of the storage drive media"; and in reply to applicant argument, arguments by the examiner were that the claimed "condition of storage device's media" can be translated as "verifying the parameters associated with the storage media" or "verifying whether the storage media is readable or writable". Applicant's representative, Mr. Theodore Fay noted that he would look into amending the claims to distinguish the invention from the prior art of record.

To follow the interview, it is noted that the applicant has not amended the claims as previously indicated, but rather argued a feature that was argued and settled in a previous examiner's interview, specifically the feature "receiving within storage drive a command to verify storage condition of said storage drive's media". This feature was argued in the interview dated March 29, 2006 where it was agreed that Jeddeloh (US 6,052,798) alone does not clearly satisfy such requirement but such feature was embedded in "the memory access request received from a memory requester, such as the system processor, the memory access request to include an indication of whether a read or a write is being requested together with an address of the requested memory portion of the

memory block, and the request to determine whether the requested memory portion of the memory block is defective (i.e. readable or writable) (See steps 64 and 66, Fig. 3; Col. 5, Lines 51-61).

Although the claimed requirement was inherent in the memory access request because a determination of whether the address was defective or not takes place along with the access request, the examiner introduced Okuyama's disclosure (US 2002/0126408) which clearly teaches disk apparatus and information processing system, magnetic disk apparatus to include a requesting unit for requesting the magnetic disk apparatus determine performance of the magnetic disk apparatus, the magnetic disk apparatus comprising a re-setting unit to request the CPU to issue a set feature command in order to set the performance parameter of the information recording/reproducing unit, i.e. said recording/reproducing apparatus setting the drive to a writable/readable state, the performance parameters corresponding to the claimed condition of the drive's media.

Please note that claim 1, as an example, requires "verifying condition of said storage drive's media and condition in a plain definition defines as "a state a readiness" and as in the specification and the claims "the drive's media being either writable or non-writable", i.e. being ready or not ready for write. Both references address this concept of verifying condition of the drive whether clearly

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or inherently and both references address the feature of "receiving within storage drive a command to verify storage condition of said storage drive's media" whether clearly, in the case of Jeddelloh, or inherently, in the case of Okuyama.

In view of the above remarks, the rejection is maintained and repeated below.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-5, 10, 12-21, 26-37, and 42-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,052,798 (Jeddelloh) in view of US 2002/0126408 (Okuyama et al).

5. With respect to claims 1, 17, and 33, Jeddelloh discloses a computer program/method in a data processing system including a storage drive for verifying a condition of said storage drive's media, comprising:

A) ***step 64, a memory access request is received from a memory requester, such as the system processor,***

B) in response to a receipt of said command, attempting, by said storage drive, to read each one of a plurality of logical block addresses included in said

storage drive (***the memory access request to include an indication of whether a read or a write is being requested together with an address of the requested memory portion of the memory block***); and

C) verifying said condition of said media by determining, by said storage drive, ones of said plurality of logical block addresses that are not in a readable condition (***step 66 determines whether the requested memory portion of the memory block is defective***) [See steps 64 and 66, Fig. 3; Col. 5, Lines 51-61].

Although such a command is embedded with the read/write command which verify whether a block of the storage device from which to read is readable and to which to write is writable, Jeddeloh fails to specifically teach receiving within said storage drive a command to verify said condition of said storage drive's media. However, Okuyama teaches disk apparatus and information processing system, magnetic disk apparatus to include a requesting unit for requesting the magnetic disk apparatus to re-set a value of specification information capable of determining performance of the magnetic disk apparatus, the magnetic disk apparatus comprising a re-setting unit to request the CPU to issue a set feature command in order to set the performance parameter of the information recording/reproducing unit 23 [Fig. 14; 204, Fig. 8; Par. 0062, 0056, 0070], said recording/reproducing apparatus setting the drive to a writable/readable state [306-311, Fig. 14]. Therefore, it would have been obvious to one of ordinary skill in the art as with each read or write, the condition of the storage device is verified along with the read or the write. One of ordinary skill in the art would have obviously combine the two

references because both are in the same field and a command to verify said condition of said storage drive's media would have provided the addition of a flag/state identifying readable/writable block of the disk apparatus and as well as a flag/state identifying unreadable/unwritable block of the disk apparatus.

6. With respect to claims 2, 18, and 34, Jeddeloh discloses reassigning each one of said ones of said plurality of logical block addresses that are not in a readable condition to a new logical block address ***[(mapping the defective memory portions determined in step 50 to non-defective memory portions in the reserved memory region) Step 60, Fig. 2; Col. 5, Lines 41-43].***
7. With respect to claims 3, 19, and 35, Jeddeloh discloses:
 - A) determining, by said storage drive, ones of said plurality of logical block addresses that are nonreadable ***(determining defective memory portions; step 50, Fig. 2);***
 - B) determining whether nonreadable logical block addresses are to be reassigned ***[Col. 5, Lines 20-27];***
 - C) in response a determination that nonreadable logical block addresses are not to be reassigned, leaving said ones of said plurality of logical block addresses that are nonreadable unaltered without reassigning said ones of said

plurality of logical block addresses that are nonreadable **[Col. 5, Lines 26-34]**;
and

D) in response to a determination that nonreadable logical block addresses are to be reassigned, reassigning said ones of said plurality of logical block addresses that are nonreadable **[Col. 5, Lines 20-34]**.

8. With respect to claims 4, 20, and 36, Jeddeloh discloses determining whether nonreadable logical block addresses are to be reassigned by checking the status of a parameter, said parameter indicating whether nonreadable logical block addresses are to be reassigned (**checking the error map to determine whether logical blocks are to be reassigned**) **[Col. 5, Lines 15-34; Fig. 2]**.
9. With respect to claims 5, 21, and 37, Jeddeloh discloses receiving within said storage drive a single command to verify said condition of said storage drive's media **[Col. 5, Lines 52-59]**.
10. With respect to claims 27, 39, and 49, Jeddeloh discloses during said verification, maintaining a list of said ones of said plurality of logical block addresses that are not in a readable condition **[Col. 3, Lines 49-59]**.
11. With respect to claims 12, 28, and 44, Jeddeloh discloses verifying said condition of said media without altering data stored on said storage drive **[Col. 4, Lines 31-41]**.

With respect to claims 13, 29, and 45, Jeddelloh discloses verifying said condition of said media without altering customer data stored on said media **[Col. 4, Lines 14-41; Col. 5, Lines 15-34]**.

With respect to claims 14, 30, and 46, Jeddelloh discloses said storage drive being coupled to a host computer system; querying said storage drive by said host computer system during said verification; and transmitting a response to said query from said storage device to said host computer system during said verification **[Col. 4, Lines 31-41; Col. 5, Lines 15-34]**.

12. With respect to claims 15, 31, and 47, Jeddelloh discloses querying said storage drive by said host computer system during said verification, said query requesting a completion status; and transmitting a percentage completion from said storage device to said host computer system during said verification **[Col. 4, Lines 5-48]**.
13. With respect to claims 16, 32, and 48, Jeddelloh discloses querying said storage drive by said host computer system during said verification, said query requesting a list of reassigned logical block addresses; and transmitting said list from said storage device to said host computer system during said verification **[Col. 5, Lines 15-34; Col. 6, Lines 9-23]**.

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claims 6-9, 22-25, and 38-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,052,798 (Jeddeloh) in view of US 2002/0126408 (Okuyama et al) and further in view of US 4,864,532 (Reeve et al).

16. With respect to claims 6-8, 22-24, and 38-40, the combination of Jeddeloh and Okuyama teaches the invention as claimed; Jeddeloh additionally discloses: the memory device being nonvolatile memory such as EEPROM or flash memory [Col. 3, Lines 6-10; Col. 3, Lines 41-45] the memory being coupled through memory and expansion bus (26, Fig. 2); but the combination fail to specifically teach coupling and decoupling itself from the host. However, Reeve discloses sequence of operations operated in the sequential handling of data transfer operations where disk drive reconnects and disconnects itself to/from to data link processor in the process of transferring data complete I/O cycled operations [Col. 12, Lines 4-31]. Therefore, it would have been obvious to one of ordinary skill in the art, that storage medium couples and decouples itself from the host, as taught by Reeve, in order to continue an operation which was previously started by the data link processor.

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17. With respect to claims 9, 25, and 41, the combination of Jeddelloh and Okuyama teaches the invention as claimed; Jeddelloh additionally discloses: the memory device being nonvolatile memory such as EEPROM or flash memory [Col. 3, Lines 6-10; Col. 3, Lines 41-45]; the memory being coupled through memory and expansion bus (26, Fig. 2); but the combination fail to specifically teach coupling said storage drive to a host utilizing a SCSI bus. However, Reeve discloses sequence of operations operated in the sequential handling of data transfer operations Small computer systems interface (SCSI) bus [abstract; title]. Therefore it would have been obvious to one of ordinary skill in the art, to utilize SCSI bus, as taught by Reeve, because SCSI controls information transfer between a host computer system and certain compatible target devices.

18. Claims 10, 26, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,052,798 (Jeddelloh) in view of US 2002/0126408 (Okuyama et al) and further in view of US 6,332,204 (Russell).

With respect to claims 10, 26, and 42, the combination of Jeddelloh and Okuyama teaches the invention as claimed; Jeddelloh additionally discloses the use of an error table to reassign logical block addresses; but the combination fail to specifically teach determining block addresses that require error recovery procedures.

However, Russell discloses determining logical block addresses that require error recovery procedures and reassigning block addresses that require error recovery procedures [abstract; Col. 2, Lines 22-26]. Therefore, it would have

been obvious to one of ordinary skill in the art, to recover failing sectors because data within a failing sector could be recovered before the sector becomes completely unrecoverable, as taught by Russell [Col. 2, Lines 26-29].

Conclusion

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

20. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pierre-Michel Bataille whose telephone number is (571) 272-4178. The examiner can normally be reached on Mon-Fri (8:00A to 4:30P).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew M. Kim can be reached on (571) 272-4182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Pierre-Michel Bataille
Primary Examiner
Art Unit 2186

September 16, 2006

PIERRE BATAILLE
PRIMARY EXAMINER